

Formation of junctions in the three-dimensional network of 3d metal-coordinated polyurethanes

Davletbaev I., Rakhmatullina A., Kirpichnikov P., Kuzaev A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Formation of junctions in the three-dimensional polymer network of 3d metal-coordinated polyurethanes obtained by adding binuclear coordination compounds of 3d metals (Fe, Cu) to the system was studied. The molecular mass characteristics of the products produced by the reaction of urethane formation up to the gel point were determined, and some kinetic parameters of the process were estimated. A metal complex reacts with a prepolymer based on oligo(ether diol) or oligo(ester diol) and tolylene 2,4-diisocyanate bearing NCO terminal groups by means of chain lengthening through the reaction of azo formation and coordination binding of 3d ions to the urethane and ester groups of neighboring chains to form branching junctions.
